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09/221,291	12/23/1998	MARTIN H. GRAHAM	003921.P005	4813

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EXAMINER
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BURD, KEVIN MICHAEL

ART UNIT	PAPER NUMBER
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2611

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/221,291  
Filing Date: December 23, 1998  
Appellant: MARTIN H. GRAHAM  
Appeal No. 2006-2122

**REQUEST FOR REHEARING**

It is respectfully requested that the decision by the Board of Patent Appeals and Interferences (Board) dated September 14, 2006 in the above-identified application (Ex parte Graham, Appeal No. 2006-2122 (BPAI Sept. 14, 2006)) be reheard on the written record as supplemented below.

The Board conclude that the only justification for the proposed combination of the teachings of Gord et al (US 5,999,848) in view of Vanderpool et al (US 5,654,978) is appellant's disclosed and claimed invention, and such teachings are not available to the examiner in an obviousness determination. However, the examiner believes there is some confusion regarding the combination of references used in the rejections of the claims. The Board quotes the appellant's reply brief that "[m]erely taking two consecutive pulses from one patent and combining it with another without some justification for the

combination is inconsistent with an obvious[ness] rejection.” However, this is not what has taken place in the rejections of the claims as stated in the non-final office action dated 3/18/2005.

### **PERIOD FOR REPLY**

Appellant may file a reply to this request for rehearing within **one (1) month** of the mailing date of this request for rehearing. This one-month period may **not** be extended under the provisions of 37 CFR 1.136(a). After the expiration of this one-month period (plus an appropriate period for mail processing), the above-identified application will be forwarded to the Board for consideration of this request for rehearing.

### **ISSUE**

Whether the Board erred in finding that the only justification for the proposed combination of teachings is appellant’s disclosed and claimed invention, and such teachings are not available to the examiner in an obviousness determination, and thus concluding that the combination of Gord et al (Gord) in view of Vanderpool et al (Vanderpool) did not reject claim 19 as being unpatentable under 35 USC § 103(a).

### **SUMMARY OF ARGUMENT**

The invention relates to a sequence of pulses. The Board’s conclusion that the combination of Gord in view of Vanderpool used by the examiner constituted a use of impermissible hindsight reconstruction in the obviousness determination. However, appellant

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has argued, in both the appeal brief and the reply brief, that there is no reason for taking the bi-phasic pulses of Gord and placing them into Vanderpool. This is **not** what has taken place in the non-final rejection. The pulse position encoding of Vanderpool has been placed into the system of Gord, not the other way around. Appellant has argued a rejection that was never made.

### **ARGUMENT**

For the reasons set forth below, it is respectfully submitted that claims 19-22, 24 and 25 are unpatentable over Gord et al (US 5,999,848) in view of Vanderpool et al (US 5,654,978) under 35 U.S.C. § 103(a).

In addition, reconsideration of claim 23, which was rejected under 35 U.S.C. § 103(a) as being unpatentable over Gord et al in view of Vanderpool et al further in view of Pernyeszi (US 5,969,547) is requested, as it is dependent from claim 22 and does not appear to be treated in the Board decision due to the reversal of the rejection of claim 19.

### **Summary of Board Decision**

The rejections of claims 19-25 were appealed. The rejections of claims 19-25 were reversed. Claims 19-22, 24 and 25 were rejected under 103(a) as being unpatentable over Gord et al in view of Vanderpool et al. Claim 23 is dependent from claim 22, and was rejected under 103(a) as being unpatentable over Gord et al in view of Vanderpool et al further in view Pernyeszi.

In the Decision, the Board stated that the only justification for the proposed combination of the teachings is appellant's disclosed and claimed invention, and such teachings are not available to the examiner in an obviousness determination. The Board quotes the appellant's reply brief that "[m]erely taking two consecutive pulses from one patent and combining it with another without some justification for the combination is inconsistent with an obvious[ness] rejection." However, this is not what has taken place in the non-final rejection of claim 19. A brief review of the references is stated below.

#### **Description of Gord et al Reference**

Gord discloses a pulse train shown in figure 8. The bi-phasic pulses shown in figure 8 comprise a first current pulse of a first polarity followed by a second current pulse of the same magnitude of the opposite polarity. Thus the net current for each bi-phasic pulse is preferably zero (column 16, lines 26-31). Data is encoded in the bi-phasic pulses since a binary "1" may be represented by a bi-phasic pulse in one phase, such as a positive current pulse followed by a negative current pulse. A binary "0" may be represented by a bi-phasic pulse of the opposite phase, e.g. a negative pulse followed by a positive pulse (column 16, lines 35-43). The pulse train of bi-phasic pulses, shown in figure 8, comprises a sequence of 110000.

#### **Description of Vanderpool et al Reference**

Vanderpool transmits data by the duration or dead time between the pulse frames 204 and 205 in figure 4. This transmission is also described in column 1, lines 10-18. The

dead time is framed by bi-phasic pulses (column 1, lines 58-65). Vanderpool states the advantages of this encoding is that the delay time can represent a separate set of multiple data bits (column 2, lines 3-5) and the data can be transmitted in a noisy environment at a high transmission rate (column 1, lines 46-50).

### **Description of the combination of the Gord et al in view of the Vanderpool et al**

#### **References**

The combination of Gord in view of Vanderpool will generate the pulse train shown in figure 8 of Gord but will contain encoded data in the dead time. The combination will generate the following for the pulse train of figure 8 of Gord:

Input data pulse 1 followed by a period of time representing a separate set of multiple data bits followed by input data pulse 1 followed by a period of time representing a separate set of multiple data bits followed by data input pulse 0 followed by a period of time representing a separate set of multiple data bits followed by an input data pulse 0 followed by a period of time representing a separate set of multiple data bits and finally followed by the input data pulse 0.

The combination will meet the claimed limitations since the sequence of pulses comprising a input data pulse 1 followed by a period of time representing a separate set of multiple data bits followed by data input pulse 0 in the pulse train discloses the limitations stated in claim 19. Claim 19 does not limit the number of pulses that are transmitted nor does it state the changes in polarity occur for all pulses transmitted. The

claims claim two pulses. The preceding pulses and the subsequent pulses are not claimed. Therefore, the claimed invention does not restrict the additional pulses of Gord. It merely requires that in a series of pulses, a first bi-phasic pulse contains a first portion of a first polarity followed by a second portion of a second polarity; a waiting period of time following the second portion of the first bi-phasic pulse during which period of time no amplitude dependent data bits are encoding, the duration of the period of time being selected to represent a plurality of data bits; and a second biphasic pulse following the period of time, the second biphasic pulse having a third portion of the second polarity followed by a fourth portion of the first polarity as stated in claim 19.

In addition, the justification for combining the pulse position encoding of Vanderpool into the system of Gord was stated in the non-final office action. More information can be transmitted than before during the same transmission period because Vanderpool discloses the delay time may represent a separate set of multiple bits in column 2, lines 3-5 opposed to the zero bits being transmitted in the delay time of Gord. Vanderpool also discloses transmission is well suited for high data rate transmissions (column 1, lines 37-38 and column 1, lines 46-50). In addition, the transmission is more resistant to noise and therefore, is capable of being transmitted in a noisy environment since the true pulses are easily distinguished from false pulses (Vanderpool, column 1, lines 46-50).

**Description of the appellant's arguments**

Appellant stated in the appeal brief on page 5, second paragraph "the rejection replaces the fixed time between the pulses of Gord et al with the variable dead time of Vanderpool et al." This is correct. However, in the next sentence (page 5, third paragraph of the appeal brief), appellant states "there is no teaching in either reference for taking the bi-phasic pulses of Gord and placing them into Vanderpool." **This is not the rejection of claim 19 stated in the non-final office action.** Appellant has reversed the order of the references. The combination (as stated above, in the examiner's answer dated 2/22/2006 and the non-final rejection dated 3/18/2005) discloses the teachings of Vanderpool are combined into the system of Gord. The motivation stated in the non-final office action (page 4, lines 1-4) was:

Each possible choice of delay time may represent a separate set of multiple data bits (column 2, lines 3-5, Vanderpool). Therefore, more information can be transmitted than before during the same transmission period.

Appellant does not address this motivation to combine the teachings of Vanderpool into the system of Gord. Appellant only states there is no motivation to combine Gord with Vanderpool. Appellant continues this argument in the reply brief filed 4/27/2006. On page 1, paragraph 3, appellant states "there is no reason why one skilled in the art would combine Gord with Vanderpool." Again, **this is not the rejection of claim 19 stated in the non-final office action.** Appellant continues on page 3, first full paragraph of the reply brief. "there is absolutely no justification for combining Gord with Vanderpool, and



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even less justification for selecting consecutive pulses from Gord and combining them with Vanderpool.”

Since the Board quoted the reply brief’s incorrect representation of the non-final rejection of the pending claims, it was unclear that the proper interpretation of the rejection of the claims was used in rendering the Board’s decision.

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### Conclusion

As illustrated above, the examiner has shown that the combination of Gord in view of Vanderpool teaches generating bi-phasic pulses comprising a waiting time period where the duration of the waiting period of time is selected to represent a plurality of data bits as recited in appellant's claim 19. Therefore, it is requested that the Board decision of September 14, 2006 in the above-identified application be modified so as to sustain the rejections of claim 19-22, 24 and 25 under 35 U.S.C. § 103(a) as being unpatentable over Gord et al in view of Vanderpool. In addition, reconsideration of the rejection of claim 23, which is dependent from claim 22 and which was not treated in the Board decision due to the reversal of the rejection of claim 19, is requested.

Respectfully submitted,




Kevin M. Burd  
Primary Patent Examiner

Approved:

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PRIMARY EXAMINER**

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